REMARKS

Claims 14-26 and 28-31 stand rejected under 35 U.S.C. § 103(a) over Parkman (U.S. Patent Publication No. 2002/0152468) in view of Sinivaara (EP 1096699) and Zicker (U.S. Patent No. 5,995,833). Applicants respectfully traverse this rejection.

Applicants have amended claim 14 to recite "at least one mobile radio base station, configured to generate at least one local mobile radio cell, wherein the local mobile radio cell does not depend on a position of the vehicle relative to a ground based stationary mobile radio network," as disclosed at least at page 3, line 3, through page 5, line 9, of applicant's specification. No new matter has been added. None of the cited references, alone or in combination, discloses or suggests such a feature.

The Examiner has acknowledged that neither Parkman nor Sinivaara disclose the claimed "mobile radio base station." The Examiner has instead relied on Zicker (Fig. 2; col. 4, lines 49-60; and col. 17, lines 54, through col. 18, line 24) as disclosing this feature. Applicants submit that Zicker does not disclose generating a local mobile radio cell as claimed. More specifically, Zicker does not disclose or suggest forming a local mobile radio cell that "does not depend on a position of the vehicle relative to a ground based stationary mobile radio network."

Zicker discloses an on-board communication system that enables passengers to use their cellular telephones while traveling on airplanes. In order to accomplish this, an on-board network 30 first *simulates a cell site* 32 in order to communicate locally with any on-board cell phones. (*See, e.g.*, col. 1, lines 12-15; col. 10, lines 28-36; and Fig 10, items 112 and 118.) As explained at col. 1, lines 38-45, this simulation of a local cell 32 is necessary to prevent ground based cell stations from forcing on-board phones to transmit in high power modes that are capable of interfering with the aircraft. The simulated cell 32 transmits information to the closest ground station 36 over multiple radio frequency voice channels 34 using an air-to-ground communication system 48.

As shown in Zicker's Fig. 1, the existing ground based cellular communication systems involve land stations 22 that are used to generate large three dimensional cells 22 – depicted as having cell borders 26. When an airplane using Zicker's system travels through a cell 22 a simulated cell 32 is generated on board the airplane. This simulated cell 32 is able to simulate the cell 22 that the aircraft is currently traveling through by establishing a connection with a ground based "ground station 36" located within the cell 22.[1]

Zicker's specification clarifies that the on-board system of Zicker communicates with the ground station 36 that corresponds to the land station 24 that generated the cell 22 through which the airplane is currently flying. (*See* col. 5, lines 10-13, "Air to ground system 48 also includes controls for continually scanning through potential pilot signals to determine the optimal ground station 36.") Accordingly, when the aircraft 20 travels into a different cell 22, the air to ground communication system 48 (shown in Fig. 2) of the aircraft 20 connects to the ground station 36 of the new cell 22. The on-board system then mirrors the new cell. As a result of the operation of Zicker's system, cell phones used on the aircraft operate as if they are communicating directly with the cells 22 through the respective land stations 24.

Based on the specification as cited above, the system of Zicker is nothing more than an "extender" which effectively extends the reach of ground based cell sites into aircraft that are flying overhead and minimizes the possibility that on-board cell phones will transmit in a high power mode. The use of the system is transparent to the cell phone users who are still required

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[1] As evidence of the operation of Zicker's system, it is helpful to turn to Zicker's claims 1 and 9. These claims are directed to a cellular communication system in which "radiotelephones communicate over a wide area through a plurality of cellsites." The claims further recite "establishing one of said cellsites inside said vehicle." (Emphasis added.) As shown in Zicker's Fig. 1, and described at col. 3, line 50, through col. 4, line 48, establishing "one of said cellsites inside said vehicle" means that the actual cell site 22 in which the aircraft is currently travelling is mirrored in the aircraft using a simulated cell site 32. Accordingly, a new local mobile radio cell is not generated as required by claim 14 of this application.

to pay roaming charges if they use their cell phones while passing over cells not operated by their service provider.

Accordingly, to the extent that the system of Zicker generates a local cell, that cell is simply a mirror of the ground based cell over which the aircraft is travelling. Such a mirrored cell is entirely dependent on the location of the vehicle relative to a ground based stationary mobile radio network. This dependency is contrary to the claimed local mobile radio cell that "does not depend on a position of the vehicle relative to a ground based stationary mobile radio network." Claim 14 is allowable for at least this reason.

Additionally, Zicker does not disclose or suggest transmitting data using an IP protocol. Claim 14 requires that an IP protocol is used for a downlink and uplink from an aircraft to the ground and vice versa. The IP protocol is a packet based protocol which does not limit the number of simultaneous calls to the predetermined number of circuit mode radio frequency voice channels as taught by Zicker. Further, by using an IP protocol for air to ground communication it is possible to completely bypass the mobile phone infrastructure of mobile phone service providers in countries over which the aircraft passes. Accordingly, it is possible to use the IP protocol (*e.g.* via the internet) to communicate with a ground station located in a home area of the respective mobile phone user, whereby the IP data can be converted back in to mobile radio data to avoid any roaming charges.

In contrast, the simulated cell 32 of Zicker communicates with the ground stations 36 using a radio communication link 34 (*see* col. 4, lines 23-48) that comprises a predetermined number of radio frequency voice channels (*see* col. 13, line 17). The ground station 36 then uses select voice channels to transmit and receive radio frequency encoded conversations of passengers in the aircraft 20. By requiring the use of a "predetermined number of radio frequency voice channels," Zicker makes it very clear that a circuit mode is used to establish connection between aircraft and ground. In other words, each telephone call from on-board the

aircraft is assigned to a dedicated radio frequency voice channel of the air to ground link 34. Once a user's cell phone has established a connection with a ground station 36 through a dedicated radio frequency voice channel, the user can then place a call in a roaming mode (*see, e.g.,* claim 9) as if it were placing a call through the cell 22 in which the plane is currently located. Accordingly, Zicker does not disclose or suggest using the claimed IP protocol to transmit data. Claim 14 is allowable for this reason as well.

Further, one of skill in the art would not have been motivated to modify the system of Zicker to use an IP protocol; to do so would render the system of Zicker inoperable for one of its intended purposes – enabling existing on-board air-to-ground communication systems to continue to function. (*See* col. 5, lines 20-45.) The existing systems used the disclosed circuit system, and would not be able to communicate with their associated ground based network if modified to use an IP protocol. As detailed in MPEP 2143.01(V):

> If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)

Consequently, claim 14 is allowable for this reason as well.

Claim 27 recites features substantially similar to those of claim 14 discussed above, and is therefore allowable for at least the same reasons. Claims 15-26 and 28-31 are allowable due at least to their respective dependencies.

Claims 27, 30 and 31 stand rejected under 35 U.S.C. § 103(a) over Parkman in view of Zicker. Applicants respectfully traverse this rejection. As noted above, the combination of Parkman and Zicker fails to disclose or suggest all of the features of claim 27. Accordingly, claim 27 is allowable. Claims 30 and 31 depend from claim 27 and are allowable due at least to their respective dependencies.

In view of the above, each of the claims in this application is in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief, including extensions of time, and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. **246472009900**.

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Respectfully submitted,

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